

Vincent, Stephen C.

Attorney Docket No. P04860US1

REMARKS**Overview**

Claims 7-10, 13, and 15 are pending in this application. Claims 7, 13 and 15 have been amended. Claim 16 has been canceled. The present response is an earnest effort to place all claims in immediate allowance. Reconsideration and passage to issuance are therefore respectfully requested.

Issues Under 35 U.S.C. § 102

Claim 16 has been rejected under 35 U.S.C. § 102(b) as being anticipated by U. S. Patent No. 3,457,148 to Waggener (Office Action, page 2). Claim 16 has been canceled, thereby mooting this rejection.

Issues Under 35 U.S.C. § 103

Claims 7-10, 12-13 and 15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,019,168 to Collins in view of U. S. Patent No. 3,457,148 to Waggener or admitted prior art (Admitted prior art Figure 1). The Examiner indicates that "Collins discloses, except the chip form of the resistor, the claimed invention at Figs. 4-7 with nichrome resistor 16, tantalum oxide layer 14 and terminals 24." Claims 7, 13 and 15 have been amended. It is respectfully submitted that the claims are distinguishable from the references cited.

Collins is directed towards a thin film resistor, however, in Collins, the resistor is formed from a different process and with a different structure. For example, claim 7 requires "a single metal thin film resistive layer directly attached to the substrate, the metal thin film layer being

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non-tantalum." In addition, claim 7 requires "an outer moisture barrier consisting of tantalum pentoxide directly overlying and contacting the metal thin film resistive layer for reducing failures due to electrolytic corrosion under powered moisture conditions; and the outer moisture barrier formed from deposition of tantalum oxide and not through oxidation of tantalum." In contrast, the resistor of Collins uses a layer of tantalum which for the most part is subsequently oxidized.

One of the structural differences of Collins is that Collins includes metallic tantalum as a part of the resistor whereas the Applicant's invention does not. At column 5, lines 59-68 it is taught that "In this connection it should be especially noted that the portions 40 and 42 of tantalum film 14 residing between the conductive pads 22 and 24 and the nickel-chromium film 10, have remained as metallic tantalum. This is a highly significant aspect of the present invention in that by enabling film 14 to remain in its metallic condition at the zones indicated, the advantages of the tantalum interface — i.e. the conductive and diffusion barrier functions previously mentioned — are fully maintained."

Therefore, it is clear that the different methodology of Collins results in a different structure because Collins requires a layer of tantalum followed by oxidation of that layer of tantalum. Therefore, this rejection should be withdrawn on that basis. To further make clear that claim 7 is directed towards a different structure than disclosed in Collins or Waggener, claim 7 has been added to include the limitation of "the outer moisture barrier formed from deposition of tantalum oxide and not through oxidation of tantalum." It is respectfully submitted that this product by process limitation further distinguishes over Collins, in that Collins does not deposit tantalum oxide but rather oxidizes tantalum, and leaves residual tantalum. Thus, this rejection to

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claim 7 should be withdrawn. As claims 8-10 and 12 depend from claim 7, it is respectfully submitted that these rejections should also be withdrawn.

With respect to claim 13, the same limitation of "the outer moisture barrier formed from deposition of tantalum oxide and not through oxidation of tantalum" has been added. Claim 13 is distinguishable from Collins the same reasons previously expressed. Therefore, this rejection should be withdrawn on that basis.

With respect to claim 15, the same limitation of "the outer moisture barrier formed from deposition of tantalum oxide and not through oxidation of tantalum" has also been added to distinguish over Collins. As previously expressed, Collins does not deposit tantalum oxide, but rather oxidizes a layer of tantalum and leaves residual tantalum there for interfacing between the nichrome film and conductive pads (Abstract). Therefore, it is respectfully submitted that this rejection to claim 15 should be withdrawn as well. It is also noted that Waggener would be deficient because at best Waggener discloses anodization. Waggener does not disclose depositing tantalum pentoxide. The Examiner indicates that "Waggener at the top of column 3 discloses that oxides can be sputtered so that sputtering would be obvious to replace the anodizing process" (Office Action, page 2 last paragraph to page 3, line 2). All that Waggener discloses is that aluminum oxide may in certain cases be deposited directly through reactive sputtering. Waggener does not disclose sputter depositing tantalum oxides. In fact, Waggener is more fairly viewed as teaching away from depositing of tantalum oxides because Waggener discloses an anodization process for forming a tantalum oxide from tantalum and makes no suggestion or teaching that a tantalum oxide can be sputter deposited.

For all these reasons, it is respectfully requested that these rejections should be withdrawn.

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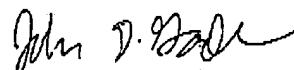
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Conclusion

This amendment accompanies a Request for Continued Examination. No other fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,



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